

VANGUARD CONCENTRATOR

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Advanco Corporation and the United States Department of Energy (DOE), on May 28, 1982, signed a Cooperative Agreement for the design, manufacture, and test of a "solar only" parabolic dish-Stirling system known as Vanguard 1. As a result of this agreement, a Project effort has developed that combines the extensive research and industrial experience of several participants to develop and produce the Vanguard 1, solar energy, electric-generating module that will technically and economically penetrate the small community market as well as the electrical utility market. The design of the Vanguard 1 dish-Stirling engine system features low risk, simple fabrication and assembly, and minimum cost. Due to the fully self-contained nature and relatively simple size of each power generation module, this solar technology lends itself to rapid commercialization. The concept combines United Stirling's USAB 4-95 Solar II Stirling engine, Jet Propulsion Laboratory's (JPL) developed mirror facets which form the reflective surface of the dish, Rockwell/Advanco's low-cost exocentric gimbal mount with the needed structural stiffness to assure tracking accuracy; a low-cost pedestal foundation; and an automatic un-manned concentrator control system. Reported in this session was a summary of the results achieved by Advanco on the fabrication and erection of the concentrator since the April 83 Detailed Design Review of the Vanguard I program.